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SYSTEMATIC EXPLORATION AT DEIR-EL-BAHARI.

The Eleventh Dynasty Temple at Deir-el-Bahari.
 Part i. By Eduard Naville, with chapters by H. R. Hall and E. R. Ayrton. Pp. ix+75; 31 plates. (London: The Egypt Exploration Fund, 1907.) Price 25s.

IN 1893, Prof. Naville undertook for the Egypt Exploration Fund the work of clearing Queen Hatshepsut's celebrated temple at Deir-el-Bahari at the foot of the cliffs bounding the western side of the necropolis of Thebes. This work was completed in 1903, but during the progress of the clearing certain relics of the eleventh dynasty were unearthed which led M. Naville to believe that under the sand and rubbish mounds on the south side of Hatshepsut's temple lay concealed a building or cemetery of the Early Middle Kingdom. In these southern mounds of Deir-el-Bahari, Prof. Naville and Mr. H. R. Hall began to excavate in 1903, and they soon brought to light the platform of what they conjectured to be another and an earlier temple. Continuing their excavations, they found a number of slabs of stone and columns bearing the cartouches of King Neb-hatope-ra Mento-hetep, and it was not long before they had cleared enough of the building to show that the ruin before them must be the mortuary temple of that eleventh-dynasty King. The clearing was steadily continued during the winter seasons until 1907, and the volume before us is the first part of the record of a patient and thoroughly systematic piece of exploration. In the writing of the memoir Prof. Naville has been assisted by Mr. H. R. Hall, of the British Museum, and by Mr. E. R. Ayrton, one of the Egypt Exploration Fund officers.

In the first chapter Prof. Naville deals with the difficult question of the sequence of the eleventh-dynasty kings. The Royal Canon of Turin preserves the names of only the last two: (1) Neb-hatope-ra (Mento-hetep) and (2) Se-ankh-ka-ra (Mento-hetep). The order of three other kings of this dynasty is now established from a newly acquired stele in the British Museum quoted by M. Naville; this gives (1) Uah-ankh Antef-aa, (2) Nekht-neb-tep-nefer Antef, and (3) Se-ankh-ab-tau Mento-hetep. The only other well-authenticated sovereign of this Theban line of princes is Neb-taui-ra Mento-hetep, whose place is probably between Se-ankh-ab-tau Mento-hetep and Neb-hatope-ra Mento-hetep. To this list of six kings Prof. Naville would add another Mento-hetep whom he calls Mento-hetep III., but the separate existence of this sovereign is extremely problematical; he only differs in his "Horus" name from Neb-hatope-ra (M. Naville's Mento-hetep II.), his prenomen and nomen are the same, and the difference in the Horus-name may well be due to his further territorial conquests. Another King Mento-hetep discovered by M. Naville (pl. xii. i) certainly belongs to the later intermediate period between the end of the twelfth dynasty and the beginning of the eighteenth; the prenomen cannot

be read on the published fragment Se-kha-en-ra as the explorer suggests, although that prenomen certainly occurs on another block found in the temple (pl. xii. j). Se-kha-en-ra, it may be pointed out, is the prenomen of a Hyksos king, and to the Hyksos period or thereabouts also belong the vassal Kings Dudu-mes (p. 3) and Senb-ma-iau (Naville in E.E.F., Arch. Report, 1906-7, p. 6), monuments of whom M. Naville and Mr. Hall have found in the eleventh-dynasty temple at Deir-el-Bahari.

In the second chapter Mr. Hall deals with the temple and its excavation. He points out that although the mortuary temple of Neb-hatope-ra has been found, the actual *tomb* of the king, which we know from the Abbott Papyrus was intact as late as the time of Rameses IX., has as yet eluded the explorers' search. The name of the temple was Akh-asut-Neb-hatope-ra, "Brilliant are the seats of Neb-hatope-ra," and it is often mentioned in the hieroglyphic inscriptions. The second mortuary temple, named Men-asut, "Firm are the seats," referred to on p. 11, was that of Queen Ahmes-nefret-ari, and was discovered in 1896 on the edge of the desert at Kurneh—a fact which seems to have escaped Mr. Hall's notice. Dating from the beginning of the Middle Empire, this temple discovered by the officers of the Egypt Exploration Fund is the earliest Theban temple known to us, and it is consequently of great interest. It seems to have been the prototype of Hatshepsut's temple, for, like it, it is constructed in terraces, the approaches to which are a ramp or inclined plane flanked by colonnades of square pillars having the cartouche of the king. The ramp leads to a platform which supported the front part of the temple, while the rear portion was cut out of the living rock. In the middle of the upper court is a large superstructure of rough stones which bore a small pyramid—a mere architectural erection—about sixty feet square at the base. This was surrounded by an ambulatory of octagonal sandstone columns, many of which still remain in position. The walls were covered with painted reliefs of religious and civil scenes, and at the back of the central superstructure were found remains of shrines of certain priestesses of Hathor under the eleventh dynasty. The painted reliefs discovered have a curious archaic appearance. Some depict men gathering reeds, driving animals, sowing and reaping, and so forth, for the maintenance of the royal funerary cult. Others give scenes from the ceremonies of the Sed-festival, and show processions of priests and warriors. The most important, however, are those which relate to a campaign of Neb-hatope-ra against the *Aamu* (pls. xiv., xv.) and the *Reten-requ* (pl. xv. F), both peoples of Asia. The patron goddess of the temple was Hathor, and it is curious that Amon does not appear to find a place in the reliefs, although Set is represented on the wall of the western court in his traditional guise.

In the third and fourth chapters the authors describe very carefully the various tombs found during the course of the excavations: "they are all, with one possible exception, of the eleventh dynasty, and there-

fore contemporary with the temple," though certain of them contained secondary burials. The sarcophagi of the Princesses Kensit and Kauit will henceforth rank as important examples of the eleventh-dynasty workmanship.

The fifth chapter, by Prof. Naville, is devoted to the twelfth-dynasty monuments found in the temple area, and to the worship, in the later periods of Egyptian history, of King Neb-hatope-ra, the founder of the temple. The most important monument of the twelfth dynasty unearthed was a red granite stela of Senusret III. (why do the authors retain the obsolete transliteration Usertsen?) recording a royal decree to the priest of Amon and to the officials of Thebes, "ordering rations of bread, and beer over and above what had been given before, in order to increase the offerings of his forefather Neb-hatope-ra." This stela, more than one and a half metres high, has since been removed to the Cairo Museum.

In the last chapter, M. Naville deals with his discovery of the famous Hathor Shrine containing the Cow-statue, at present one of the chief objects of interest in the museum at Cairo. This splendid specimen of the Egyptian sculptor's work M. Naville believes dates from the reign of Thothmes III., but it bears the name of his son, Amenhetep II. A fine coloured reproduction of it is given in pl. i., from a water-colour drawing by Mr. Reach.

Several of the photographic plates are poorly reproduced, but a word of praise ought to be given to the line drawings of Madame Naville, which, as always, are excellent.

BIOGRAPHY OF AN INVENTOR.

Thomas Alva Edison: Sixty Years of an Inventor's Life. By Francis Arthur Jones. Pp. xvi+375; with 22 illustrations. (London: Hodder and Stoughton, 1907.) Price 6s. net.

"IT is estimated," so Mr. Francis Arthur Jones tells us, "that if everything that has ever been written and published about Edison were collected and re-published in book form, it would make a library of a thousand volumes—each volume containing an average of a hundred thousand words." The present biography is a most readable and interesting book, which gives a very good insight into Edison's life in the space of 375 pages. It is written for the general rather than the scientific reader. It would be a capital book to place in the hands of schoolboys, and if juvenile readers were to play at setting up make-believe printing presses in railway trains in emulation of Edison's first attempts at educating himself the amusement would be a harmless and instructive one, if they did not reproduce the fiasco which first put the youthful inventor "down on his luck."

This biography should do much to disillusion the impressions which are so commonly formed about successful men, that they only have to invent something in order to make a fortune. It shows clearly that the only road to success is through failure. His career as telegraphic operator was most precarious, and one of his first inventions—a vote-recording

machine for election purposes—was refused, really because it was too ingenious and perfect; in fact, it could not be tampered with. His resolve never to invent anything which was not wanted by the community at large helped him greatly, but still the telegraph companies would not seriously consider his systems of multiplex telegraphy until he had done something more. That something was to help them out of difficulties when a breakdown occurred. His successes in obtaining his first cheque from the Gold Indicator Company, and in securing the adoption of his improvements in telegraphy, were only achieved when he had shown his capacity of being handy man in an emergency. Then the success of his inventions in connection with the telephone and phonograph was only bought at the cost of long and patient attempts at trying first one substance and then another for the transmitter of the former and the cylinder of the latter. As to the continual litigation which fell on Edison's shoulders in order to protect his patents, Mr. F. A. Jones's information regarding the large staff of solicitors employed in Edison's legal department bears abundant testimony.

In the later chapters we see how even success brought troubles with it in the form of a crowd of reporters, interviewers, cranks and faddists, and it cannot be doubted that Edison's good humour and ready wit, of which we have here many amusing instances, no less than his indomitable energy and perseverance, were greatly needed in order to enable him to cope with all the work that fell on his shoulders. His biographer is also at considerable pains to disillusion the reader as to the wild and fantastic inventions attributed by unscrupulous newspaper reporters to "the wizard of Menlo Park," and to which the name "Munchausen science" has been given. Unfortunately, many of these tall stories have been read and widely believed in England, and no one is stronger in his condemnation of such fictions than Edison himself.

It would be very desirable that a further book should some day be published dealing more especially with the scientific aspect of Edison's work. It would undoubtedly be a difficult task to write such a book. If Edison did not study at a university in the accepted meaning of the term, he certainly appears to have made a university for himself in his workshops, in which he was his own professor, and it cannot be denied that the training he underwent under these conditions was fully as efficient, and in many ways better, than a course modelled on conventional lines. His education was undoubtedly thoroughly scientific in the best sense of the word, but it was different in the matter of technicalities from that of the ordinary science student. Consequently Edison nowhere figures as a contributor of papers in transactions and periodicals. Some evidence is given in this book that results published elsewhere as "researches" were well known to him years previously. His "notion books," couched though they be in a mysterious language of their own, must contain a lot of important new results, and it will be a pity if no steps are taken to render these results accessible to scientific workers at